

* The first three of these conditions have changed only in substituting the broader term "hydrocarbon" for "oil" in the first proposed criterion. The Agency has declined to change the term "producing" to "bearing" in the first condition because it did not want to open the possibility of wholesale exemption of aquifers over large areas of the country, which become identified as being capable of producing one or another mineral. Similarly, the Agency has chosen not to define further the term "economically or technologically impractical." After considering the alternatives, the Agency decided it was more appropriate to leave the determination of what is or is not economically or technologically impractical to the discretion of the Director in the particular case.

The fourth exemption is new. It is an attempt to respond to those commenters who correctly pointed out that certain Class III mining operations necessarily involve the subsidence or collapse of strata above the injection zone. In such cases, the probability of harm to the overlying aquifers is substantial once operations are underway. The decision to protect these aquifers is more appropriately made at the time the mining operation is permitted.

In cases where the Director chooses to exempt an aquifer, he is required to submit not only detailed maps, but also sufficient justification in support of the exemption.

The Director may exempt aquifers as part of the State program he submits to EPA for approval. Therefore, the designations, by the nature of the process, are subject to public hearing and comment as well as the review and approval of EPA. The Director is free to change the designations or add to them at a later date. Such a change, however, would constitute a major modification of the approved State program and, as a major modification, is subject to public hearing and comment, as well as EPA review and approval.

C. Area of Review and Corrective Action. Most of the comments received on the revised area of review/corrective action concept contained in the re-proposed 40 CFR Part 146 were generally supportive, although a number of specific suggestions were made. *First*, a number of commenters pointed out that the equation provided in the proposed § 146.06 was applicable only in certain circumstances. EPA agrees, but notes that in proposed § 146.05(c), the alternative calls only for the computation of the zone of endangering influence based upon certain parameters. The modified form of the equation provided in that section was

illustrative and for the convenience of the reader. It was not intended to represent the only acceptable equation to be used in all cases.

Second, a number of commenters suggested that the applicant for a permit be given a voice in the decision of how the area of review would be determined for his well or field. EPA agrees and has added to the regulations giving the Director discretion to consult the applicant in this regard (§ 146.06). *Third*, some commenters suggested that the one-quarter mile radius be made an absolute minimum regardless of whether the zone of endangering influence was determined as fixed distance or through computation. EPA disagrees with this suggestion. In cases where the zone of endangering influence is actually less than a quarter of a mile, such a requirement would force the applicant to expend resources and do work which may not be justified by the expected benefits. *Finally*, some commenters suggested that the area of review be drawn from the edge of a field or project rather than the individual well. EPA agrees. The concept was included in the language of the proposed § 146.05(c) and has been retained in the final requirement.

Two comments were made with regard to the proposed corrective action requirement. The first suggestion was that the text of the proposed regulations seems to imply that it is up to the applicant to collect the information on the number of wells penetrating the injection zone within the area of review. The argument is that such information is kept by the State and, therefore, the requirement should be for the State, rather than for the applicant, to gather this information. The Agency agrees only in part. While it is correct that in many cases this information is in the files of the State, and, therefore, simplicity would suggest that the State should make use of this information in the review of the permit application, the Agency believes it important that the ultimate burden for providing the information necessary for an adequate review of a permit application should rest with the applicant and should not be transferred to the permitting authority. Therefore, the language of the final regulations makes it possible for the State to supply this information when, in the judgment of the Director, it is appropriate to do so. However, the final regulations do not explicitly relieve the applicant of the responsibility for making such information available when the Director deems it appropriate.

Another area of comment concerned the possible interpretation that in

requiring corrective action on wells that penetrate the injection zone within the area of review, the Director may be put in a position of requiring the applicant to go onto the property of others, or to take corrective action on the property of others in order to meet the permit conditions. EPA agrees that it is inappropriate for these regulations to require an applicant to perform actions which may not be within his legal ability, as a condition or precondition of obtaining a permit. As a consequence, the corrective action requirement has been revised (§ 122.41) to provide the Director and the applicant with three options.

First, if he can arrange it with the neighboring owners and operators, the applicant may, before he begins to inject, take the corrective action prescribed by the Director and then inject at his intended injection pressure.

Second, the Director may issue a permit with a reduced injection pressure calculated so that the potential zone of endangering influence will be no bigger than the area under the control of the applicant in which the applicant can take the appropriate corrective action.

Third, the permit can be issued with the requested injection pressure but with the condition that the owner or operator must operate at a lesser pressure until such a time that he takes the corrective action required to allow a more extensive zone of endangering influence. In arriving at this resolution, EPA did not agree with suggestions that the State use its authority to force the owner or operator of the "bad" well to repair it. The Agency believes that it is not appropriate to use the authority of the State to force one individual, without his agreement, to incur expenses and effort which benefit another party. In addition, abandoned wells in the area of review also may have to be fixed. In many cases, it may not be possible to locate a responsible party.

D. Mechanical Integrity. Proposed § 146.08 defined mechanical integrity as having two parts: (1) The absence of a significant leak in the casing, tubing or packer; and (2) the absence of significant fluid movement into an underground source of drinking water through vertical channels adjacent to the injection well bore. The proposal specified that the absence of significant leaks was to be established through the use of eight listed tests. The absence of significant fluid movement could be demonstrated either through well records demonstrating the presence of adequate cement or the result of a cement bond log, sonic log, temperature log, density log, or dual neutron log. The